METHOD AND SYSTEM FOR COORDINATING AND UTILIZING CHANNEL POWER INFORMATION IN AN OPTICAL COMMUNICATIONS NETWORK

CROSS-REFERENCE TO RELATED APPLICATIONS

This application claims the benefit of U.S. provisional application serial number 60/289,672, filed May 9, 2001, and U.S. nonprovisional application serial number 09/917,043, filed on July 27, 2001 the entire contents of which are incorporated herein by reference.

BACKGROUND OF THE INVENTION

Field of Invention

The invention relates generally to a method and system for modeling channel power, coordinating channel power information, and utilizing the coordinated channel power information as a basis for managing optical network elements in a multi-channel optical communications system.

Description of Related Art

Wavelength division multiplexing (WDM) has been used to increase the capacity of existing fiber optic networks. In a WDM system, plural optical signal channels are carried over a single optical fiber with each channel being assigned a particular wavelength. Such systems typically include a plurality of receivers, each detecting a respective channel by effectively filtering out the remaining channels.

Optical channels in a WDM system are frequently transmitted over silica based optical fibers, which typically have relatively low loss at wavelengths within a range of 1525 nm to 1580 nm. WDM optical signal channels at wavelengths within this low loss "window" can be transmitted over distances of approximately 50 km without significant attenuation.